REMARKS

Claims 1-27 are pending and stand rejected in the instant patent application. Applicants have canceled claims 2-5 and 7 without prejudice or disclaimer to the subject matter claimed therein. Claims 1, 8-11, 14-18, 20-22 and 25-27 have been amended. New claims 28-37 have been added.

Applicants respectfully submit that support for the amendment to line of claim 1 can be found, for example, in Paragraph [067]. Similarly, support for the amendment to claim 20 can be found in Paragraph [060]. Applicants respectfully submit that support for new claims 28, 35 and 36 can be found in Paragraph [053]. Further, new claims 33 and 34 find support in the original specification in, for example, the Abstract. To further assist the examiner, canceled claims 2 and 3 have been re-written as new claims 35 and 37.

Applicants note that claims 1-27 would be allowable if rewritten or amended to overcome the rejections under 35 U.S.C. 112, second paragraph.

35 USC §112, Second Paragraph Rejections

Claims 1-27 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicants respectfully traverse the position stated in the Action that silicon is not a metal. Applicants acknowledge that, strictly speaking, silicon is a metalloid or semimetal, as is indicated on the appended pages, which are taken from the "about.com" website, and whose specific URL is: http://chemistry.about.com/library/weekly/aa010103c.htm, and attached as Appendix A. However, silicon, and most of the other semimetals for that matter, possess at least *some* properties of the metals, e.g., metallic luster, ability to alloy with other metals, etc. Mindful of this, the instant application chooses to treat silicon as a metal, at least for purposes of describing the instant invention. See, for example, the definition of "Infiltrant" found on page 9 of the specification as originally filed.

Accordingly, claims 1, 3, and 20 should be clear as written regarding this matter.

Applicants respectfully submit that amendment of line 12 of claim 1 to delete the term "(s)" makes the claim clearer and renders this grounds of rejection moot.

The Action wanted to know which portion of the ceramic composite body is being described by the passage "said ceramic composite body is characterized by...about 300 microns in size"? Applicants respectfully submit that what is being described by this phrase is the microstructure of the ceramic-rich composite body, and more specifically, it is the features (the "morphological features") of the microstructure. For further details, see, for example, Paragraphs [053], [068] and [069].

Applicants respectfully submit that claim 3 has been re-written as claim 37 and re-worded to recite that not more than 30 vol% of the ceramic-rich composite body can be the silicon-containing metal of the matrix. Note that the ceramic can be provided by the one or more filler materials, which can be silicon carbide. Note also that the filler(s) can be provided in high concentration, e.g., 70 vol%.

The re-writing of claims 4 and 5 as the similar claims 33 and 34 should clarify these claims and render moot the grounds of rejection directed to them.

Applicants respectfully submit that the amendments to claims 1, 10, 11, 14, 17, 20-22, and 25-27 should render moot the "antecedent basis" grounds for rejection.

Applicants respectfully submit that cancellation of claim 7 renders moot the rejection that this claim fails to further limit the claim from which it depends.

Regarding claim 20, the Action stated that it is not understood how one can solidify a metal to form a ceramic-rich composite body. Applicants note that the claimed body possesses a certain minimum hardness, a property thought to be important for ballistic applications. The instant specification indicates that high hardness can be achieved by using hard materials as the filler material(s), which are often ceramic materials such as silicon carbide. Thus, the specification makes a connection between hardness and ceramic materials. See, for example, the first sentence in paragraph [024].

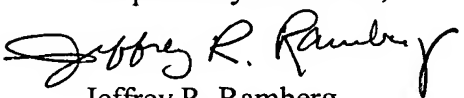
The Action noted that copies of documents DE 30 05 586 and WO 98/42634 could not be located in the files of this or the parent applications. Accordingly, applicants re-tender herewith copies of the missing documents as Appendix B.

Applicants take notice of the art of record but not relied upon.

In view of the above remarks and carefully amended claims, applicants respectfully submit that the present invention is in condition for allowance. Accordingly, applicants respectfully request issuance of a Notice of Allowance directed to claims 1, 6 and 8-37.

Should the Examiner deem that any further action on the part of applicants would be desirable, the Examiner is invited to contact applicants' undersigned representative.

Respectfully submitted,



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Encl. Appendix A: selected pages from "about.com" website
Appendix B: Copies of patent documents DE 30 05 586 and WO 98/42634 cited in IDS but not found in the parent files

Chemistry

Element Types - Chemistry of Groups

Part 3: Metalloids or Semimetals

More of this Feature
- Part 1: Metals
- Part 2: Nonmetals
- Part 3: Metalloids or Semimetals
- Part 4: Alkali Metals
- Part 5: Alkaline Earths
- Part 6: Halogens
- Part 7: Noble Gases
- Part 8: Transition Elements

Related Resources
- Periodic Table of the Elements
- Links to Other Periodic Tables
- Periodic Properties of Elements
- Introduction to the Periodic Table
- Chemistry 101 Resources

Location on the Periodic Table

The metalloids or semimetals are located along the line between the metals and nonmetals in the periodic table. The metalloids are boron, silicon, germanium, arsenic, antimony, and tellurium. Polonium is often considered a metalloid, too.

Properties

The electronegativities and ionization energies of the metalloids are between those of the metals and nonmetals, so the metalloids exhibit characteristics of both classes. Silicon, for example, possesses a metallic luster, yet it is an inefficient conductor and is brittle. The reactivity of the metalloids depends on the element with which they are reacting. For example, boron acts as a nonmetal when reacting with sodium yet as a metal when reacting with fluorine. The boiling points, melting points, and densities of the metalloids vary widely. The intermediate conductivity of metalloids means they tend to make good semiconductors.

Summary of Common Properties

- Electronegativities between those of metals and nonmetals
- Ionization energies between those of metals and nonmetals
- Possess some characteristics of metals/some of nonmetals
- Reactivity depends on properties of other elements in reaction
- Often make good semiconductors

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